

# **San Bernardino County Business Recycling Guide:**

***An introduction and implementation  
resource for the business community***



**A Service to San Bernardino Communities  
From the County of San Bernardino  
Solid Waste Management Division**



[www.sbcounty.gov/dpw/solidwaste](http://www.sbcounty.gov/dpw/solidwaste)

## **Greetings!**

The County of San Bernardino produced this guide to assist businesses in establishing or expanding their business recycling. This guide provides business owners and management the tools to facilitate source reduction, reuse, recycling, business waste characterizations and other templates to sustain a recycling program along with other references and contacts.

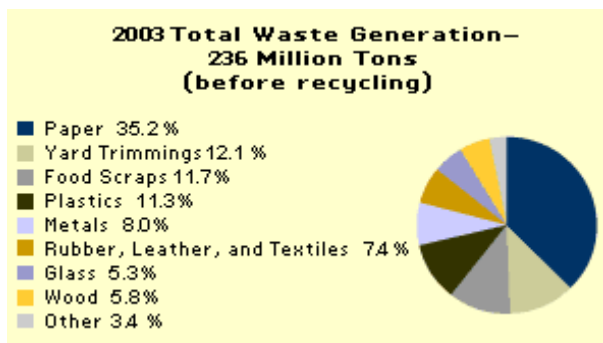
The increased interest in recycling, especially business recycling, stems from the requirement for every city and county in the State of California to divert 50% of their solid waste generated in their jurisdictions from landfills, as required by the California Integrated Waste Management Act of 1989. Every business owner in the County can contribute to meeting this goal. The guide allows a business to take ownership of their recycling program through methods and worksheets for planning, preparation, implementation and program maintenance.

The Solid Waste Management Division wants to thank you for taking the time to integrate a recycling component into your business plan. The benefits do come in time, either monetarily; through cost savings or reducing the impact that businesses have on constrained resources. Choosing to recycle more is the first step to waste reduction. If you have any questions, comments or suggestions about the San Bernardino County Business Recycling Guide, please contact the Solid Waste Management Division at 1-800-722-8004.



### **What are businesses, residents and institutions throwing away?**

According to the Environmental Protection Agency, in 2003, Americans generated 236 million tons of municipal solid waste. That is approximately 4.5 pounds of waste per person per day!



## TABLE OF CONTENTS

---

Business Recycling 101 .....	2
Getting Started- The Nuts and Bolts.....	3
Drafting the Plan.....	4-6
Waste Sample Audit Form.....	7
Additional Waste Reduction Strategies.....	8-9
Creating A Successful Business Recycling Program.....	10
To Market We Shall Go.....	11
Offices.....	12-15
Retail Establishments.....	16-17
Hotels.....	18-19
Restaurants and Bars.....	20-21
Health Care.....	22-23
Construction and Demolition.....	24-25
Additional Tracking Mechanisms and Resources.....	26-32
Glossary.....	33-35
Contacts to Assist Businesses in Recycling Efforts.....	36-37



### ABOUT THIS GUIDE

The first part of this guide provides essential background information and guidelines common to all business waste reduction programs. The second part addresses businesses in particular industries that you as a business owner or manager may reference to target or customize for your business and needs. Finally, the Appendix section contains supplemental materials including assessment forms, glossary of terms and contacts.

## Business Recycling 101

The California Legislation passed the California Integrated Waste Management Act of 1989, (AB 939) and every city and county in the state must meet the mandated 50% diversion of waste from landfills by the year 2000 and beyond. Jurisdictions that fail to meet these targets are subject to fines of up to \$10,000 per day.

Since inception, not all jurisdictions have met the 50% rate due in part to low recycling participation rates and many recoverable items are still ending up in landfills. Business and industry alone generates 60% of California's waste stream. Reducing the amount of waste a businesses produces saves valuable landfill space and decreases the disposal costs a business incurs.

As a business leader, your participation is critical in achieving the waste diversion goals set forth by the State. Business owners and managers can save money by incorporating a recycling and source reduction program into their business plan.

Business recycling not only allows the County to attain state mandated goals, but there are tangible benefits in adopting waste reduction and recycling programs.

- Producing less trash through waste reduction and recycling lower disposal costs by reducing the number of trash pick-ups or the size of the bins.
- Waste reduction usually results in lower procurement costs. For example, using double-sided copies reduce the demand for paper, and refilling ink jet cartridges instead of buying new ones is less expensive.
- Recycling programs can become powerful marketing tools. The public is receptive to the idea of recycling, as demonstrated by the high (more than 80%) recycling rate attained in the State's beverage container recycling programs. Businesses which publicize their recycling measures (see suggested news release in the Appendix section), find they are able to effectively project their social responsibility and that in turn can enhance their bottom line by attracting like-minded consumers.



## **GETTING STARTED – THE NUTS AND BOLTS**

---

As you begin to develop your plan, you will find unique conditions that apply only to your situation. However, here are key elements found in all successful programs:

**1. *The Management Condition***

The decision to develop and implement a recycling program must come from the highest level of management, and everyone concerned has to know it. Every level within an organization must understand the role it will play in achieving waste reduction goals.

**2. *A Simple, Straightforward Plan***

A recycling program that does not require extensive effort or time will have the greatest chance of success. A simple office paper program is a good place to begin; it offers strong opportunities for success and expansion opportunities.

**3. *The Recycling Coordinator***

The business must have an enthusiastic and well-organized employee to undertake the additional role of the recycling coordinator. Programs at inception are not self-regulating; an individual taking the lead is intrinsic to the program's success and serves as a link between management and employees. The coordinator should structure the overall program, develop implementation time lines, and work with the collectors of materials and monitor results. The coordinator must have the authority and visible support from management in running the program.

**4. *The Communication Plan***

Recycling programs are successful when participants have a clear understanding of what is expected. All employees should receive ample notice of the program's implementation. Update employees on the progress of the program, the actual implementation date and expectations prior to launch. Scheduling a presentation from either the waste hauler or the local recycling coordinator to address employees and/or management on what can and cannot go into the recycling bins alleviates confusion.

**5. *Markets for Materials***

In the design of a recycling plan, it is critical to know what you will do with what you collect. The waste haulers or recycling firms in your area can provide information on commodities accepted, current prices and logistic information regarding collection, transportation and processing. (Also, see section *To Market We Shall Go.*)

**6. *Monitoring and Evaluation***

Establishing a good monitoring and evaluation plan demonstrates what is working and where problems exist. Data from this plan will serve as the basis for the effective communication efforts and program improvements needed for long-term success of the program.

**7. *Incentives***

In setting up the program, management may encourage employees to utilize the recycling program with incentives. The incentives can function as a reminder to use the program, to encourage more usage or as a reward for actively participating in the program. Management should decide on the types of incentives and quantity.

## **DRAFTING THE PLAN – STRATEGIES FOR SUCCESS**

---

The following steps are common to many recycling programs.

### ***Step 1: Conducting the Audit***

The first step in developing a recycling program requires an understanding of the business' waste stream. A waste assessment determines which materials can and cannot be recycled. (see sample Waste Audit Form, page 7.)

A Recycling Coordinator performs a waste audit with assistance from the waste hauler, recycler or an outside consultant. Large organizations should contact their local waste haulers and develop a plan, which will be effective in a complex environment. Depending upon the size and nature of a business, audits either range from a walk-through of the business or are systematic by filling out a detailed information form.

For some situations, it will be enough to examine business waste containers and make an estimate of the types and quantities of waste these contain. In other cases, thorough waste characterization evaluations may be necessary.

Waste assessment should be part of a company's ongoing recycling program because waste volumes generated usually change periodically. The Recycling Coordinator should plan to check the waste containers periodically.

The sample audit form on page seven follows guidelines established by California Integrated Waste Management Board (CIWMB). It provides a good basis for developing a business waste diversion plan. Samples of more elaborate waste gathering and assessment forms are included in the Appendix.

### ***Step 2: Questions to Ask and Answer***

A comprehensive recycling plan derives from data gathered from the waste audit and assessment. Implementing a recycling program works best if phased in. Divert high volume and easily accessible items first, and then add other recyclable materials later.

In the development of any recycling plan, it is critically important that the entity charged with the final handling and marketing of recyclable materials from the onset of the plan's design is considered. From this position, the rest of the plan can be "backed into." In doing so, ask and answer these questions:

- Which materials do we separate for recycling?
- When, where and how will materials be collected?
- Who will remove, process, and market recyclables?

### ***Step 3: Source Separation (Setting Up Containers)***

Source separation at the point-of-origin is the critical step in any waste diversion plan. For example, if an office generates high-grade white paper that can be recycled and less valuable mixed paper, it is a good idea to keep the two separate so as not to lower the white paper's value.



Containers for collecting different types of recyclable materials must be strategically located throughout the business. Every situation will differ, but some successful programs include the following:

- Desktop (or under-the-desk) containers for recyclable paper.
- Containers in copy room and computer locations.
- Cans, plastics and glass containers in employee lunch/coffee break areas.
- Space set aside for large recyclables or reusable items.
- Containers for regular trash strategically placed throughout the office to avoid contamination (i.e. non-recyclables thrown into recycling containers with the recyclable items).

#### ***Step 4: Collection – Transferring Recyclable Materials Out Of the Workplace***

An efficient collection system is essential to the success of your recycling program. A janitorial or maintenance staff will serve as a vital link between those who separate recyclables and the contractor who will remove the materials so they can be processed and marketed. The collection phase of your recycling plan requires these steps:

- Coordinate collection of recycling containers with trash collection.
- Provide appropriate space for intermediate containers.
- Establish a regular collection time schedule.
- Provide easy access for collector to pick up materials. (Larger businesses may have sufficient volumes of materials to warrant an on-site baler or other compaction equipment. This will make the collection of recyclable materials easier and increase their volume).

#### ***Step 5: Disposing Of Recyclables***

As your recycling plan develops, critical marketing issues need consideration between your business and the selected waste hauler, recycler or broker, particularly in the case of businesses, which generate a high volume of recyclable materials. Do not be dissuaded if a market for some business waste does not yet exist. In most cases, it costs considerably more to landfill a ton of waste than it does to recycle a ton of recyclable materials.

#### ***Step 6: Monitoring and Evaluation***

At the onset of your program, include a monitoring and evaluation plan, it will provide specific technical data and provide the basis for ongoing employee incentives. The benefits of a recycling program are far ranging and long-term, the monitoring and evaluation plan is important and will determine what short-term impact your program is having on the bottom line.

Regularly evaluate baseline information compiled through the waste audit and the development of numerical targets established in your recycling plan to determine the progress of your program. Some of the key points to track:

- Which goals were met, why or why not?
- Which strategies are working best, and why?
- Which strategies are not working, and why?
- What are the real costs/revenues resulting from the recycling plan?
- Is a meaningful level of waste diversion occurring?
- Are disposal cost savings being realized?
- Is the employee communication plan effective?

### ***Implementations Tactics to Consider***

- Work with the waste hauler or County recycling coordinator to arrange for collection of recyclables.
- If you lease or rent space in commercial building ask the property management company if they will provide for the collection of recyclable materials in conjunction with the collection of waste. In some cases, a joint approach by several businesses with the same property management company can be effective.
- If in an office building, speak to the building manager or concierge. Buildings often have recycling programs in which tenants can easily participate.

### ***Notes***





## WASTE SAMPLE AUDIT FORM

1. How much waste do you produce per month? (in tons or cubic yards)
2. Which of the following recyclable materials are in your waste and what percentage (by volume/weight) of your total waste per month do they represent?

Materials (examples)	% of Monthly Waste
<b>Paper</b>	
_____ Corrugated boxes	_____
_____ High quality office paper (white ledge paper)	_____
_____ Computer paper (green bar, blue bar, dot matrix)	_____
_____ Mixed paper (junk mail, phone books, post-its)	_____
_____ Newspaper (daily paper, newsprint, drawing paper)	_____
_____ Mixed grade office paper (tablets, envelopes)	_____
<b>Plastics</b>	
_____ California Refund Value (CRV) Polyethylene Terephthalate-PETE #1 (soda, water and juice bottles) (so marked)*	_____
_____ California Refund Value (CRV) High-Density Polyethylene-HDPE #2 (water jugs CRV only) (milk jugs, detergent bottles)	_____
_____ Vinyl/Polyvinyl Chloride (PVC) #3 (household cleaner bottles, cooking oil)	_____
_____ Low Density Polyethylene (LDPE) #4 (plastic bags, films, trash bags, bread bags )	_____
_____ Other (any other type of plastic)	_____
<b>Glass</b>	
_____ California Refund Value (CRV) (wine coolers) (so marked)*	_____
_____ Refillable beverage bottles (marked on bottles)	_____
_____ Other recyclable glass (jars, non-redemption)	_____
_____ Other non-recyclable glass (window panes, bulbs)	_____
<b>Metals</b>	
_____ California Refund Value (CRV) ((soda, beer) (so marked)*	_____
_____ Bi-metal cans (soup, juice or vegetable cans)	_____
_____ Non – ferrous metal (brass, copper, bronze, etc.	_____
<b>Other</b>	
_____ Yard Waste (leaves, grass, prunings)	_____
_____ Other organics (food wastes, wood)	_____
_____ Inert solids (rock, concrete, asphalt, brick)	_____
_____ White goods (appliances)	_____
_____ Special Waste (tires, ash, sludge, rendering grease)	_____
_____ Universal Waste – E-Waste (computer monitors, TV's and cell phones)	_____
_____ Medical/Biohazard Waste (see Health Care Section)	_____

\*For a complete list of Beverages subject to California Refund Value (CRV). Please refer to [www.bottlesandcans.com](http://www.bottlesandcans.com)

## ADDITIONAL WASTE REDUCTION STRATEGIES

---

### Source Reduction

Waste reduction – reducing waste at the source – is a process, not one single action, thus captured by the phrase, “*Reduce, Reuse, Recycle.*” In other words, waste reduction not only means recycling materials that can be used again; it also means reusing products you’ve used before if they can still be used instead of replaced, and using less to start with.

Here are some valuable waste reduction tips, which are environmentally sound and can save money:

- Return trimmings and overruns to the production process whenever possible.
- Reuse paper (the clean side of paper used once can be used in laser printers when preparing documents intended for internal use; also paper can be used again for note-taking).
- Proofread documents before printing multiple copies.
- Make only as many photocopies as are strictly needed.
- Make your documents double sided if more than one page.
- Use Electronic Mail.
- Replace your fax machine with a plain paper mode (traditional fax paper is not recyclable).
- Reuse packaging containers, packaging polystyrene “peanuts” and bags.
- Refill or recycle printer and copier toner cartridges.
- Circulate magazines and cut down on subscriptions.
- Purchase equipment that is repairable or leasing equipment is also an option.
- Have departments share equipment when feasible and without disruption.
- Donate obsolete materials to charitable organizations.
- Substitute single use products with reusable products.
- Use reusable mugs, utensils and dishes in lunchroom as much as possible.
- Use cloth rags for cleaning instead of paper towels.
- Use rechargeable batteries.
- Centralize filing –instead of having many duplicate files –whenever feasible without disruptions.
- Reuse manila envelopes internally.
- Use a computer for file storage and circulate altered documents only.

These are just some source reduction ideas to consider. Evaluate your business and identify areas for source reduction and reuse.



## Procurement

Another dimension to waste reduction measures, pertaining specifically to recycling, is purchasing products made in part from recycled materials. This helps create a demand – and a market – for the recyclable materials. That is what is meant by the phrase, “*Closing the Loop*” – the loop comprising the steps of collection, processing and giving recyclable materials another life. Beyond serving a vital waste reduction and conservation function, procurement policies create a market for recyclable materials, have long-term economic implications, and contribute to the rise of new industries. In purchasing recycled products, you obtain materials that would have otherwise gone to the landfill and strengthen markets for recovered secondary materials. Here are some of the procurement policies that may be considered:

- Notify manufacturers of your desire to buy recycled and recyclable products.
- Tell your suppliers to keep packing materials down to a minimum.
- Ask suppliers to ship orders in returnable and reusable packaging and pick-up the packaging for its reuse.
- Commit to purchase a set percentage of products with recycled content.
- Establish minimum content standards for post-consumer materials (to thoroughly contribute to waste reduction, it is essential that some of the recycled materials used in new products to be post-consumer waste).
- Buy recycled paper, and make sure that paper contains at least 25% consumer content.

## Composting/Grasscycling

Businesses, which maintain lawns, can make an enormous contribution toward keeping green waste out of the landfills through grasscycling (recycling grass) and composting. Some simple strategies include:

- “*Cut it high let it lie.*” That means take off a little grass at a time and let it lie on the lawn. Short clippings will disappear between blades in a few days and actually help fertilize a lawn.
- Arrange to have grass mowed by a “mulching” type lawn mower, which chops grass into fine pieces and puts it back into the lawn.
- If practical, start a compost pile for your yard waste. Composting is the biological decomposition of organic materials into an enriched soil used as a fertilizer and soil conditioner. However, composting is something of a science, so you may need to read up on it before starting a composting pile. For more information, please contact Solid Waste Management Division at the toll free line at 1-800-722-8004.
- Some cities also have a commercial green waste program. Contact your local recycling coordinator or hauler for information.
- Add a provision to your maintenance contract asking your groundskeeper to implement a grasscycling and composting program.
- Buy mulch and compost from your local greencycler for fertilizer.
- Implement / contact a commercial food waste program.
- Work with your company landscaper, if available.

You can also call a local recycling center to find out if it accepts yard waste; see Appendix for a list of processors.

## **CREATING A SUCCESSFUL BUSINESS RECYCLING PROGRAM**

What drives a business – any business – is the bottom line. The formula for a successful business is maximizing income, while minimizing cost. Yet, many potentially successful businesses are literally dumping their profits.

Remember, recycling saves in several ways:

- It saves your business money by reducing waste disposal fees.
- It diminishes the need for landfill space (every ton of paper, recycled, saves 3.3 cubic yards of landfill space).
- It saves our natural resources (for every ton of paper recycled, 17 trees are saved).
- It saves energy costs (manufacturing paper products from recycled paper uses 64% less energy than paper made from virgin pulp).
- It saves water (it requires 50% less water to manufacture paper products from recycled paper than using trees).
- Finally it helps safeguard air quality (recycled paper produces approximately 60% less air pollution and more than 30% less water pollution).

Cost saving and socially responsible characteristics of policies include some of the following:

- A commitment from the top (environmental practices/policies)
- Financial support (and time) provided by management
- A clear and simple plan for employees to follow
- Ongoing education efforts
- An incentives and rewards program
- A workable collection and delivery plan

Conversely, businesses that resist or flatly refuse to explore waste reducing habits, generally exhibit the following:

- Complete lack of commitment by management
- A fear of change
- A lack of knowledge on how to proceed
- The misperception that a recycling program cost will never be recovered
- A lack of understanding of the importance of recycling
- Do not know how to begin, seems cumbersome



## **TO MARKET WE SHALL GO**

---

If your city/county hauler does not have a commercial program yet and you must market your recyclables yourself, or if you opt to use a private firm to take your recyclables (they pay you) then here are some helpful tips.

A key component of your recycling program is where to send the recyclable materials once separated. Which recyclables will the end-user (market) accept? In what form will the market accept my recyclables? How do I get the recyclables to the market?

Determine if the various markets accept your recyclables. Here are a few simple criteria to follow when evaluating your material's marketability.

- Proximity of markets should be close enough to keep shipping transportation costs reasonable.
- The recyclable materials should be uncontaminated (clean).
- Recyclable material costs less to recycle than to send to the landfill.

Should I sell directly to the market, or use a local recycler or broker?

Generally, to sell directly to the market requires the recyclables be upgraded or processed. Assume your business generates three tons of corrugated cardboard a month. The processor pays you \$40 a ton for unbaled OCC, and \$80 if baled. If the monthly rental of a baler is \$20, it may prove cost effective to go that route. However, do not forget to factor in the cost of staff time to operate the baler and meet the quality specifications.

Your local recycler will generally accept lower quality materials, and will then upgrade to send to the market. Many recyclers accept mixed materials, saving you the time of separating all of it.

A broker buys recyclables from several sources, bargains to get the best market value and then handles the pickup and delivery to the market.

If your business is too small to generate enough of certain recyclables to make recycling cost-effective, consider cooperative marketing with other companies. Members of the cooperative can even share processing equipment such as balers, chippers, etc.



## OFFICES

---

### *Background*

There are a number of materials targeted in an office recycling campaign. Paper is a chief target

Paper is the single largest component of the municipal solid waste stream, accounting for about 36% of the nations waste. Office paper is the third largest category of paper waste after newspapers and corrugated cardboard. The average American office worker throws away about half a pound of paper per day. In a financial institution, that daily average rises to about two pounds per day; with 50 employees, that is about 24,000 pounds of paper per year going to the landfill.

Beyond the strain on landfills is the impact virgin product paper and the failure to recycle paper has on forests. As a rule of thumb, recycling one ton of paper saves 3.3 cubic yards of landfill space and 17 trees.

Consider, too, recycling paper saves energy and water; paper products made from recycled paper use 64% less energy and 50% less water than those produced from virgin pulp. Manufacturing recycled paper products also generates 60% less air pollution and 30% less water pollution than manufacturing paper products from virgin materials.

Here are some basic guidelines to follow in setting up an office-recycling program.

### **Materials to Target**

- White office ledger  
Virtually all types of stationery, including white copy machine paper, typing paper, blank or imprinted computer paper, steno pad paper and white envelopes without plastic windows or adhesive address labels are considered white office ledger. These are also considered high-grade paper. However, if you combine them with mixed paper (see below), the value of the batch will be reduced to the value of the less valuable mixed paper.
- Computer paper  
This refers to the oversized computer paper with green bars printed on it. If your office generates only a small volume, it can be mixed with the white paper category described above. If you generate a lot, your hauler or broker may request to separate it so it can obtain a higher price as it is the highest grade of paper available because of its high fiber content.
- Newsprint paper  
This can be made into more newsprint, paperboard, packaging cartons or toilet paper.
- Corrugated cardboard  
This type of cardboard gets its name from the ridges and grooves that create a wall, sandwiched between two paperboards, to protect a carton's contents. Corrugated cardboard is relatively valuable, and about half of the corrugated used in the United States is recycled.

- Beverage containers

Aluminum, glass and plastic. There is a ready market for aluminum; as a result, it carries a relatively high price. As for plastics, some types are recyclable and some are not. Your hauler or broker can advise which type of plastic is recyclable in your area.

- Printer cartridges

A recharged toner cartridges at half the price of a new one, sparing landfills, reducing the need to get rid of a hazardous container, and save substantial sums of money; the money wasted by American businesses through the discarding of cartridges has been estimated at \$1.5 billion per year.

Printer cartridge refilling involves disassembling the cartridge and replacing the original drum once with a “*high yield drum*” that subsequently can be used five to 10 times longer. The initial replacement will cost about two thirds the price of a new cartridge, but subsequent refills will drop down to half the cost of a new cartridge.

To facilitate cartridge recycling, you should specify that your new machines must have refillable cartridges. Also, make sure the service contracts on your existing machines do not preclude the use of refillable toner cartridges.

Recharging companies are in the yellow pages under Computer Parts and Supplies. A list of Southern California toner cartridge refillers and remanufactures appears in the appendix section.

Another option is printer cartridge recycling programs. Many are available online and can provide your business with mail back envelopes or other options. Visit [www.earths911.org](http://www.earths911.org) for information.

Office Materials (Paper) That Cannot be Recycled		
Carbon Paper	Blueprint paper	Wax paper
Thermal fax paper	Self-adhesive labels	Photographic paper
Plastic-coated paper	Tissue paper, paper towels	Paper with food on it
Dual material packaging (e.g. FedEx Envelopes, which have plastic fibers)	Envelopes with windows (they’re OK once the windows are removed)	Paper with adhesives (e.g. post-its; but lick & stick envelopes are OK)

If you are in doubt as to whether a certain paper type can be recycled, call your local hauler or recycling coordinator.





## Program Implementation Steps

- ***Obtain and distribute containers for the collection of paper.***
  - You will need at least three types of containers for paper: One type located at each employee's desk or where small clusters of employees work; centrally located.
  - You may also require a wheeled bin for transporting large amounts of paper.  
In some cases, mail carts, dollies or handcarts, although the need for this kind of equipment is not necessary if you can use an existing custodial service to transport recyclable paper to the container from where the hauler or recycling service collects it.
  - It is vitally important to make sure that all your containers comply with fire safety codes.
- ***Desktop or under – the – desk containers (paper)***
  - These are essential in order to begin separating recyclable paper at the source, which is easier and cheaper than mixing it all up and separating it later.
  - Various designs and materials are available, including corrugated cardboard or plastic. Some containers can fit on a desk, some under a desk, and others can hang on the wall. (It's not a bad idea to survey employees and determine which type they find useful and aesthetically pleasing, this helps promote consistent participation in the program.
  - In some cases, custodial staff will empty these containers nightly. In other instances, it will be necessary for employees themselves to transfer the contents of their personal containers to intermediate containers, so the individual containers should be large enough to hold a three – day output of paper.
  - If you buy your container, look for some with recycled content. If budgetary constraints prevent buying individual containers, or if the employer does not provide these, you can use empty drawers, envelope boxes or cardboard boxes placed in the kick space under a desk.
- ***Intermediate Containers (Paper)***
  - These are the containers used to gather the contents of individual containers. They should be strategically located, including in heavy traffic areas, common work areas and areas where recyclables are generated, such as copying rooms. There also should be centrally located containers for newspapers.
  - Clearly label the central containers. If a container used only for white paper, it should read, White Paper Only. This minimizes contamination with mixed paper.
  - Central containers must be clearly distinguished from trash containers. Avoid contaminating recyclables with non – recyclables.
  - If purchasing intermediate containers is not feasible, you can use tall, clean trashcans or large boxes and keep them clearly labeled.
  - If feasible, situate intermediate containers in areas where they are easily accessible to both employees and the people tasked with transferring the contents to storage containers, e.g., near elevators or dock areas.
  - Have the intermediate containers emptied on a regular basis by either the janitorial staff or the recycling contractor.

- ***Storage Containers (Paper)***

These will take the paper that has been deposited in the centrally located intermediate containers. Ideally, these should make collection of recyclable paper easy for you and your hauler or recycling service. Commonly used storage containers include plastic, metal or canvas wheeled bins, pallet boxes, and bulk cardboard containers.

- ***Select an area for the intermediate office storage of corrugated cardboard***

- Make sure employees remove contents and other foreign materials – tape, packaging materials, etc. –and then flattened boxes and kept in one big box stored out of the way.
- Make sure corrugated boxes are not mixed with waxed corrugated boxes as these are not recyclable (paper fibers impregnated with wax cannot be reused).

- ***Arrange for the transport of recycled paper to storage / pickup areas***

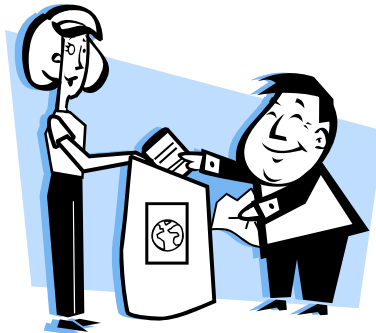
- The ideal situation is for your hauler or recycling service to clear out your centrally located intermediate containers; ensure that this task does not end up disrupting normal work operations.
- An option that is almost as attractive is to have custodial staff shift recyclable paper from the intermediate containers to the storage containers. Stock room and mailroom employees can also do on that task. A fourth alternate is to have a part – time worker come in regularly to do the transporting.
- In any event, intermediate containers should be emptied into storage containers regularly. Whoever ends up performing that task will have to make sure that different types of recycling papers 1) are not mixed together and 2) do not get mixed up with trash.

- ***Obtain and set up beverage containers***

- These should be set up in the high traffic places, e.g., lunchrooms, near vending machines, but not near restrooms.
- Your hauler or recycling service will advise whether there should be separate containers for glass, plastic and cans.

- ***Make arrangements to service toner cartridges***

- See section on printer cartridges in section above (Materials to Target).



## RETAIL ESTABLISHMENTS

(Also, see section entitled OFFICES)

---

### *Background*

Along with their need to dispose of their own recyclable materials, retail establishments – especially grocery stores – shoulder an especially important responsibility with respect to waste reduction. The fact is retailers contribute to the waste stream just about every time someone walks out of a store with a shopping bag.

Both paper bags and plastic bags have environmental shortcomings. Although recyclable, most paper shopping bags consist almost exclusively of virgin materials since recycled paper does not have enough fibers to provide the required strength. As for plastic bags, most are made of petrochemical resins and are not biodegradable although some plastic bags made from 30%, recycled milk jugs.

This section offers number of strategies through which retailers can reduce the number of bags that come from stores.

### **Targeted Materials**

- Shopping bags (reduction of)
- Corrugated cardboard
- Other packaging materials
- White paper
- Newspaper
- Mixed paper
- Beverage containers
- Clothes hangers – particularly related to dry cleaning



### **Program Implementation Steps**

- Reduce shopping bag use through the following measures when feasible: Offer customers a small incentive to bring their own shopping bags; some markets take a nickel a bag off the grocery bill of every shopper who brings back a paper or plastic bag and reuse it.
  - Have clerks ask, “*Do you need a bag*” before asking whether paper or plastic is preferred.
  - Set up bins where customers can bring worn – out bags for recycling.
  - Sell clothes grocery bags, which can be ordered bearing your logo, or which can be purchased from several environmental organizations.
- Explore other waste reduction strategies, e.g.:
  - As a matter of policy, work with vendors / suppliers in requesting items without excess packaging, eliminating packaging altogether when feasible.
  - When packaging is needed, ask suppliers to provide packaging that is reusable; correspondingly, establish a system whereby reusable packaging is saved and stored.

- Use packaging that is recyclable and that includes post – consumer recycled content.
- When appropriate donate old or outdated merchandise rather than dump it in the trash.
- When remodeling produces construction debris in large amounts, arrange to have it recycled, donate it to institutions that may need it or advertise its availability through SBCounty MAX at [www.sbcountymax.org](http://www.sbcountymax.org)
- *General recycling*
  - Conduct an especially detailed waste audit; given the likelihood that your business generates recyclable materials in large quantities.
  - The biggest source of waste and recyclable materials generated by a retailer stems from shipping and receiving, pay special attention to corrugated cardboard in conducting your audit.
  - Since a retailers recyclable materials can be voluminous, carefully consider handling options; for a retailer, it may make more sense to deal with a recycling service than with a hauler.
  - Determine if, in your circumstances, obtaining a baler or compactor makes sense; in several instances, it will.
  - If the public is likely to have access to containers used for recyclables, have containers properly labeled and accessible trash containers to minimize contamination.
  - In businesses where employees separate recyclable materials, make certain the necessary containers are located away from sales and service areas.
  - Incorporate a paper-recycling plan within your overall recycling program. (See section on office recycling.)
  - Flatten all corrugated cardboard boxes. Make sure not to mix in waxed corrugated boxes, as these are not recyclable. (Paper fibers impregnated with wax are not reusable.)



# **HOTELS**

(Also, see sections entitled OFFICES and RESTAURANTS)

---

## ***Background***

Waste reduction can save a hotel a good deal of money in the end. First, there is a market for much of what you can recycle. Second, a hotel often will have the ability to deliver recyclable materials directly to recycling centers. Third, an effective recycling program will reduce disposal costs.

An important aspect in waste reduction at hotels is to enlist ideas and help from employees. Here are some strategies to assist beyond just waste reduction.

- Cutting down on paper usage – taps, showers, toilets – through the use of water – saving devices such as modern shower heads, faucet aerators, photo electric cell start – stop flow controls for washrooms taps and urinals, and by rapidly fixing leaky taps.
- Cutting down on energy usage by using compact fluorescent bulbs in lieu of incandescent; painting wall and ceilings in light colors to reflect more light, refraining from turning on washers and dryers until they're full; etc.
- Using only refined motor oil.
- Cutting back on use of aerosol products
- Disposing of toxic waste safely at all times and cutting down on toxic waste in the first place by using non – toxic substitutes (water and baking soda in lieu of oven cleaner, water – based paint instead of oil paint, cedar chips rather than moth balls, potpourri instead of air fresheners, etc.).
- At check in, ask guests if they need anything – soap, shampoo, shaving cream, etc. – and offer to deliver it to their room. This effort will help reduce waste since many travelers carry their own toiletries.

One of the greatest contributions a hotel can make to waste reduction is through its purchasing policies.

## **Targeted Materials**

### **General**

- Glass
- Aluminum and steel cans
- Food waste
- Plastics
- Newspaper
- Clothes hangers
- Corrugated cardboard

### **Office Waste**

- Office paper
- Printer cartridges

### **Program Implementation Steps**

- Phase out:
  - Individual sugar packages
  - Individual creamers
  - Individual condiment containers
  - Disposable cups

- Reduce packaging; buy in bulk instead and, if some supplies have to be packaged, use your influence to demand less packaging from suppliers and manufacturers.
- Avoid supplies packaged in polystyrene foam, which virtually never decomposes.
- Avoid buying and selling items packaged in blister – plastic on cardboard.
- Buy shampoos and cleaning supplies in bulk.
- Return wire hangers to laundries instead of discarding them.
- Deliver newspaper to guest rooms folded – not wrapped.
- Adopt an aggressive program to recycle bottles and other recyclable containers. A 475 – room hotel can generate about 10,000 of liquor and wine bottles a month!
- Adopt an equally aggressive paper-recycling plan (see office recycling section).
- Stay persistent in instituting a grasscycling and composting program to cut down on green waste.
- Work out a system of recyclable material collection and storage that meets your needs, based on the layout of your facility.

Unless there are alternative arrangements with your hauler, different types of recyclable materials should be separated at the point of generation.

Different types of containers will be required – for example, stacking containers or individual containers in bar and kitchen areas, saddlebags for housekeeping cards for guest room collection and decorative collection containers for recyclables on hotel grounds.

You also will need secondary containers – wheel totter carts, which generally are 60 or 90-gallon plastic cans with attached lids – to transport recyclable materials on hotel grounds.

Storage containers located near a service area exit may consist of one large compartmentalized roll – off or smaller dumpsters. Storage containers can be leased or purchased through waste haulers, recycling companies or purchased directly from manufacturers or distributors.

- Avoid using aerosols, as aerosol containers are not recyclable; instead use pump spray dispensers, which are cheaper and can be refilled and reused for years.
- Adopt a guest-recycling program, equipping rooms with recycling containers in which guests – after receiving their instructions from brochures and / or TV screens can deposit glass bottles, plastic containers, cans and newspapers. In addition, recycling containers can be placed on each floor of the hotel near the elevator and the ice dispenser, and near the pool and the vending machines.
- Put in place a program to recycle materials generated by your fleet of vans and cars. This can include:
  - Recycling motor oil through authorized garages or, where applicable, your municipal Household Hazardous Waste programs; also, if using service stations for oil changes, use only those that recycle their motor oil.
  - Having tires retreaded whenever feasible.
- Consider donating shampoo and soap left by guests only slightly used to shelters and other charities thus providing useful items to people who can use them, and keeping the items out of landfills.

## RESTAURANTS AND BARS

(Also, see section entitled OFFICES.)

---

### *Background*

As is the case with most other businesses, restaurant and bars have good reason to see waste reduction from three perspectives: as a contribution to reducing the waste stream, as a way to project social responsibility to customers, and as a way to cut costs, which can be achieved in part by reducing disposal costs.

Key materials to target include cardboard, cans and glass these materials represent about 60% of a restaurant's waste stream, and food waste accounts for almost 30%.

Dealing with the recyclable materials a restaurant or bar generates is straightforward. The strategies for dealing with these materials include cutting on excess packaging, donating food to charities, sending food waste to composting facilities, and setting in place traditional recycling programs for cans and glass.

However, there are special considerations. An establishment serving food needs to maintain high standards of hygiene, which means not letting waste or even recyclable materials, lie around for very long. You also want to keep most recycling activities, including storage, out of your customer's sight.

### **Targeted Materials**

- Aluminum and steel cans
- Glass
- Food waste
- Office paper
- Plastics
- Corrugated cardboard

### **Program Implementation Steps**

- Eliminate single-serve packaging, such as:
  - Coffee creamers
  - Sugar and sugar substitute
  - Cereal
- Reduce over – packaging; buy in bulk instead. This, in itself, will dramatically reduce the volume of waste you generate.
  - With supplies that need to be packaged, use your influence to demand less packaging from suppliers and manufacturers; also, insist on being kept informed of new products relying on minimum packaging.
- Kitchen products available in bulk include, among others:
  - Syrups
  - Condensed soups
  - Yeast
  - Soups
  - Flavoring
  - Condiments (bought in bulk, condiments can then be dispensed from refillable containers)



- Use carbonators and siphons instead of bottled soda water.
- Buy other beverages in concentrate or bulk form whenever possible. Whenever that is not possible, make sure your beverages come in returnable bottles or recyclable containers.
- Buy bar mixes in concentrate form rather than ready-to-mix.
- Offer straws from dispensers rather than individually and pre – wrapped.
- Use reusable coasters or nothing at all instead of paper napkins when serving drinks from the bar.
- Minimize excess use of trash bag liners by first compacting trash; also, use liners made of recycled HDPE #2 instead of LLDPE or LLDPE #4. HDPE – liners contain less raw materials, usually cost less, and they work just as well.
- Use reusable table linen and dinnerware instead of the disposal variety.
- Use hot-air hand dryers in restrooms instead of paper towels.
- Monitor inventory and cut back if you find you are always throwing away perishables.
- If food served to customers is constantly thrown away because there was too much on a plate, reduce the portions.
- Donate unserved food to a local food bank or other charity.\*
- Rotate perishable stock to eliminate waste due to spoilage.
- Use vegetable and meat trimmings for soup stock.
- Adopt aggressive recycling programs for cans, bottles and corrugated cardboard; place recycling bins in safe, convenient areas for workers and, if appropriate, attractively adorned bins for customers.
- Set up rendering service for your waste grease, fat or used cooking oil; rendering companies treat these items and you cannot throw these materials into the trash.

\*California's "Good Samaritan" law states a food serving facility may donate a food to a food bank or any nonprofit charitable organization for distribution free of charge. The donor will not be held liable for damages or injury resulting from the consumption of donated food unless negligence, recklessness or intentional misconduct was involved.



## **HEALTH CARE (Also, see section entitled OFFICES and RESTAURANTS.)**

---

### ***A Little Background***

Nearly 75% of the waste generated by hospitals is of the non-hazardous variety. The single biggest component of a hospital's waste is paper, followed by food and other organic materials, followed by plastics.

All of which means that, when it comes to waste and recyclables, hospitals aren't all that different from other sectors of the business community; in fact, the Office Recycling strategies set out elsewhere in this manual are a must for hospitals. However, hospitals do have special considerations, even without considering hazardous waste. The program implementation steps section below seeks to address some of these considerations.

### **Targeted Materials**

- Mixed paper
- Computer paper
- Mixed paper
- Corrugated cardboard
- Beverage containers
- Green waste
- Food waste

### **Program Implementation Steps**

(Please note medical/biohazard waste disposal is not addressed in this manual. For specific information visit [www.dhs.ca.gov/medicalwaste/](http://www.dhs.ca.gov/medicalwaste/).)

- Consider using reusable containers for sharp medical instruments instead of the disposable variety. Check with your supplier for availability.
- Buy cleaning substances in large drums that are refillable by the supplier, and have staff mix cleaning solutions from concentrates.
- Use washable mops instead of disposable ones.
- Buy in bulk whenever possible.
- Wherever it is safe, use cloth towels instead of disposable ones.
- Use reusable patient items instead of the disposable variety (water pitchers, glasses, bedpans, etc.).
- Make sure each patient receives only one admission kit rather than kits from different departments.
- Whenever it is safe, use washable linens, pillows, bed pads, under pads and quilts rather than disposables.
- Eliminate seldom-used items from custom surgical packs.
- Consider using reusable medical instruments instead of automatically procuring the disposable variety.
- Consider purchasing washable surgical and isolation gowns and sterilization trays.
- Sanitize and reuse graduated measuring containers and plastic fracture pans.

- Donate unused operating room supplies for use overseas.
- Use reusable eating utensils instead of the disposable variety or compostable utensils. Visit <http://www.ciwmb.ca.gov/FoodWaste/Compost/Biodegrade.htm> for information
- Use a bulk milk dispenser for patients instead of individual milk cartons.
- Donate unserved food to a local food bank or other charity.\*
- Adopt an aggressive paper, glass, and can recycling program, making sure that intermediate containers located in high – waste-generating areas, readily accessible to employees.
- Adopt an aggressive grasscycling program.
- Be water wise when planting; look for plants that require less water for landscaping. Visit [http://www.thegarden.org/siteDocs/Nifty50\\_2006.pdf](http://www.thegarden.org/siteDocs/Nifty50_2006.pdf) for a list of plants.
- Donate used items that can still be useful (e.g., containers, folders, binders, and other office supplies). Or donate it to institutions that may need it or advertise its availability through SBCounty MAX at [www.sbcountymax.org](http://www.sbcountymax.org)

\*California's "Good Samaritan" law states a food serving facility may donate a food to a food bank or any nonprofit charitable organization for distribution free of charge. The donor will not be held liable for damages or injury resulting from the consumption of donated food unless negligence, recklessness or intentional misconduct was involved.

### *Notes*



# CONSTRUCTION AND DEMOLITION

---

## *Background*

For the purpose of this manual, construction, demolition, and inert waste (C & D) is material generated in the construction and demolition of buildings, roads, homes, facility improvements, and landscaping. This waste stream includes, among other materials, concrete, asphalt, gypsum, wood waste, glass, ferrous and non-ferrous metals, red clay brick and corrugated cardboard.

C&D waste makes up a significant amount of the general waste stream. In California C&D accounts for nearly 22% of the solid waste stream.

As is the case in most sectors, effective programs to reduce waste in C & D, diverts substantial volumes of materials from landfills, conserves natural resources by decreasing the need for virgin materials, and saves C&D contractor's a great deal of money.

For example, tipping fees for concrete and asphalt at Class III landfills can average \$34.30 per ton – compared to as little as \$10 per load at concrete and asphalt recycling facilities. Although transportation costs represent a significant concern, contractors should know that many haulers offer reduced fees for materials separated at the source.

Contractor's also have numerous options to sell or donate recyclable products and materials that otherwise would end up in landfills. Up to 50% of C&D materials are recyclable. These are mainly Class I materials – external construction debris. Class II materials – internal construction debris such as wood, plasterboard, metals etc. – can be successfully recycled through salvage programs, including programs that involve removal before mechanized demolition begins.

C&D materials can be recycled into a variety of useful products that reduce the need for virgin materials. Concrete and asphalt waste can be crushed for use as aggregate base in road construction, red clay brick of good quality can be reused in building materials, and the potential for wood wastes is virtually boundless.

## **Targeted Materials**

- Wood (lumber, pallets, green waste)
- Concrete (dirt and rocks)
- Asphalt
- Glass
- Ferrous and non-ferrous metals
- Roofing materials
- Red clay brick
- Corrugated cardboard
- Plastics
- Fiberglass

## Program Implementation Steps

- Conduct an audit to assess the amounts and composition of your waste, the frequency of generation and the space available for separation of materials and storage.
- Based on your assessment, determine which materials to separate out from mixed wastes.
- Practice reduction through sound management and planning. “Measure twice cut once.”
- Recycling at the job site:
  - Use separate bins for each recycling material.
  - Clean-up responsibly – do not throw out what can be recycled.
  - Coordinate an effective recycling program with your hauler.
- Close the Loop / Buy aggregate
  - Companies working in the construction industries can assist the recycling cause by buying recycled products.

### *The Reuse Concept*

Recycling is great, but reuse is better! Businesses can save money by reusing materials and products that have multiple uses or used more than once. Separate and reuse materials in their existing form at the site or by other businesses and organizations. This requires some advanced planning but by participating in a materials exchange, a company can improve its bottom line: reducing disposal fees and saving money. There are several organizations that may be able to reuse your unwanted materials:

If you no longer have need for products or materials and costly disposal is not an option look to **SBCountyMAX**, an on-line service that provides listings of “available” and “wanted” reusable waste materials or excess materials generated by a variety of businesses. Businesses or individuals can use the site to look for low cost materials or post reusable or excess materials. For SBCountyMAX, please visit [www.SBCountyMAX.org](http://www.SBCountyMAX.org) to view or place an ad, it is free or call 1-800-722-8004. SBCountyMax is a partnership between San Bernardino County and the California Integrated Waste Management Board.



*Tell them you found it  
in SBCountyMAX!*

### **Habitat for Humanity – San Bernardino Area**

A non-profit organization, Habitat for Humanity uses volunteer labor and donated materials to build and rehabilitate housing for low-income families, and then sells them at cost. This organization relies heavily on donations for its building supplies, and often is in need of a wide variety of construction materials. They are always in need of plywood and dimensional lumber. Habitat for Humanity has limited storage space, moves from site to site, and must comply with strict building codes; any donations require pre-approval and arranged with the organization in advance. If you have any materials for donation, contact Habitat for Humanity, San Bernardino Area, 1235 Indiana Court, Suite 111, PO Box 1550, Redlands, California 92373 or call 909-307-2362 or email [habitatsb@gmail.com](mailto:habitatsb@gmail.com). Visit their website at [www.habitat4humanity.net](http://www.habitat4humanity.net) for more information.

## ADDITIONAL TRACKING MECHANISMS AND RESOURCES

---

Businesses interested in obtaining information about waste reduction to supplement this manual have hundreds of options – government agencies and trade associations to call and manuals to consult. The list is not comprehensive and not intended as an endorsement.

With respect to monitoring / tracking mechanisms, these can be simple or as elaborate as a business requires. The main body of this manual provides a simple audit worksheet for businesses to use in getting their waste reduction program started. For the benefit of businesses with more extensive information requirements, the section includes additional worksheet samples.

### ***TOPICS***

- 1.** Memorandum to Employees (Sample)
- 2.** Press Release (Sample)
- 3.** Monitoring and Evaluation Worksheet
  - Section A Start-up costs for recycle
  - Section B Projected Annual Recycling Operation Costs
  - Section C Projected Materials Revenues
  - Section D Benefits Summary
    - Table 1 Benefits: Quantifiable
    - Table 2 Benefits: Non-Quantifiable
  - Section E Estimated Costs and Benefits
- 4.** Glossary
- 5.** Contacts to Assist Business in Recycling Efforts



# MEMORANDUM

(Sample)

TO: All Employees

FROM: Business Owner

SUBJECT: Our New Recycling Program

I am proud to announce that we will launch a comprehensive recycling program beginning \_\_\_\_\_. At the urging of several of our employees, as well as responding to requirements placed on the City of \_\_\_\_\_ to meet new statewide waste diversion goals, we are committing the necessary resources to do our part.

Many of you are already recycling at home. Now, it is time to extend that effort to the workplace.

I truly believe that with your support, we can make a significant impact on helping our environment. With a little effort by each of us, it will not take long to achieve worthwhile results. These measures also will save our company a significant amount of money in the end.

\_\_\_\_\_ has agreed to serve as our “Recycling Coordinator.” Please know that he/she has my total support in this effort.

Specific details of our programs will be forthcoming. I hope you are as excited as I am about our company’s future contributions to the environment.

President / Chief Executive Officer



## **PRESS RELEASE**

(Sample)

### **ZYX COMPANY ANNOUNCES MAJOR RECYCLING PLAN PRESIDENT EXPECTS TO SAVE \$40,000 IN FIRST YEAR**

(San Bernardino, CA) – Fearless leader, president of XYZ Company of San Bernardino, California, announced today that his company is undertaking a major recycling program beginning January 1, 200X.

“I truly believe that with the support of all of our employees, we can make a significant impact on helping our environment,” said Fearless Leader. “With a little effort by each individual, including myself, it won’t take long to achieve worthwhile results.”

According to leader, XYZ Company, which manufactures state-of-the-art widgets, expects to save more than \$40,000 in the first year of the program, just by recycling paper and corrugated cardboard.

“Recycling is the best answer to our society’s growing waste disposal problem,” Leader said. “First of all, it diminishes the need for landfill space (every ton of paper recycled saves three cubic yards of landfill space), and second, it saves our natural resources (for every ton of recycled paper, 17 trees are saved).”

Leader and the XYZ Company have issued a challenge for other businesses in San Bernardino County to join them in saving the environment by initiating their own recycling programs.

###

## MONITORING AND EVALUATION WORKSHEET

Date \_\_\_\_\_

Name \_\_\_\_\_

Enter all costs you will incur in implementing a recycling program.

These are one-time start-up costs. Analyze them according to your company's schedule if you wish to compute the benefits of the program.

### Section A

### Start-up costs for Recycle

Start-up costs	
Design, Planners, Consulting	
Site or Location Preparation	
Building Alternations	
Installation of Utilities	
Others:	
<i>Subtotal, General</i>	
Internal collection	
Hamper of bins	
Permanent signs	
Desktop containers	
Recycling containers	
Pallet jacks	
Other:	
<i>Subtotal, Internal</i>	
External collection systems	
Dumpsters	
Vehicle:	
Vehicle:	
Equipment:	
Other:	
<i>Subtotal, External</i>	
<i>Total Start-up Costs</i>	

**Section B****Projected Annual Recycling Operating Costs**

<b>ITEM</b>	<b>DIRECT COST</b>	<b>% ALLOCATED TO RECYLING</b>	<b>NET COST FOR RECYLING</b>
<b>Overhead</b>			
Space Rental			
Maintenance			
Utilities			
Administration			
Other			
		<i>Subtotal Overhead</i>	
<b>Staff</b>			
Recycling Manager			
Maintenance			
Equipment Operator			
Other			
		<i>Subtotal, Staff</i>	
<b>Equipment</b>			
Fuel, tires, oil			
Maintenance			
Supplies & parts			
Replacement			
Other			
		<i>Subtotal, Equipment</i>	
<b>Education</b>			
Production/Printing			
Advertising			
Distribution			
Consulting			
Other			
		<i>Subtotal, Education</i>	
<i>Total Recycling Operations Cost (add all Subtotals)</i>			
<i>Yearly Amortized Cost of Start-Up (from section A)</i>			
<i>Total Annual capital &amp; operating costs of recycling</i>			

## MONITORING AND EVALUATION WORKSHEET

Date \_\_\_\_\_

Name \_\_\_\_\_

### Section C

### Projected Materials Revenues

A	B	C	D	E	F
Materials	Estimated	Expected	Revenues	Expected Fee	Estimated
	Quantity per Year in Tons (worksheet 5, Section D)	Price per ton (worksheet 6, Section C & D)	(B X C)	Per Ton (for those Materials with Marketing fees)	Quantity per Year in tons (B X E)
1.					
2.					
3.					
4.					
5.					
6.					
Total Revenues				Total Cost	

Materials Revenues and Costs			Total Materials Revenue	Minus Total Materials Cost  = Net Materials Revenue Cost
------------------------------------	--	--	----------------------------	-------------------------------------------------------------------

### Section D

### Benefits Summary

*Summarize benefits from recycling. Some may not be precisely calculable.*

**Table 1**

Benefits: Quantifiable	Value in \$
Recycling Revenues (from Section C of this Worksheet)	
Savings in Waste Management (worksheet 9, section G, table 2)	
Reduce Staffing (estimated value)	
Other Reductions:	
<b>Total Quantifiable Benefit (add all lines)</b>	

## MONITORING AND EVALUATION WORKSHEET

Date \_\_\_\_\_

Name \_\_\_\_\_

**Table 2**

<b>Benefits: Non-quantifiable</b> (examples: regulatory compliance, improved public relations etc.)	

### Section E

### Estimated Costs and Benefits

Total Quantifiable Benefits (section D, Table 1)	
Total Recycling Costs (section B)	
Total Benefit Cost (subtract line 2 from line 1)	

## **GLOSSARY**

---

### ***Baler***

A machine used to compress and bind recyclables for shipment and storage.

### ***“Closing the loop”***

Refers to the steps of sorting, collection, processing and giving recyclable materials another life. The purchase of recycled-content products in an attempt to expand market demand for these materials, thereby providing an economic incentive to divert materials from disposal.

### ***Compost***

A mixture that consists largely of decaying organic matter and is used for fertilizing and conditioning soil. Greens + Brown + Air/Water = Compost!

### ***Composting***

The biological decomposition of organic materials such as leaves, grass clippings, brush and food waste into a soil amendment.

### ***Computer paper***

Oversized paper on which green bars are printed. To be recycled, the paper must be untreated and uncoated.

### ***Corrugated cardboard***

This type of cardboard gets its name from the ridges and grooves that create a wall sandwiched between two paperboards, to protect a carton's content.

### ***E-Waste***

This electronic equipment is near the end of its useful life. Television and computer monitors are considered hazardous E-waste and must be disposed of properly.

### ***Ferrous***

Derived from iron. An aluminum beverage can is an example of a ferrous metal. Ferrous metals are usually separated from non-ferrous metals with a magnet. Thus, a good test to determine if a metal is ferrous or non-ferrous is to apply a magnet to it. A ferrous metal should not attract the magnet.

### ***Grasscycling***

The waste prevention practice of leaving grass clippings on a lawn while mowing, which allows the nutrients to return to the soil.

### ***HDPE #2***

High-density polyethylene. This type of plastic is used in milk jugs, detergent bottles and motor oil containers. HDPE is cloudy or milky.

### ***LDPE #4***

Low Density Polyethylene. This type of plastic is used in plastic bags, films, trash bags, bread bags.

## **GLOSSARY**

---

### ***Mixed waste paper***

A mixture of various grades of recycled paper. Any form of colored (non-white) paper plus any paper with a colored backing. Includes yellow-pad paper, buff paper and recycled paper.

### ***Mulch***

The practice of layering organic material (usually shredded yard trimmings, straw, decorative bark or compost) on top of the ground to insulate and protect it from erosion, temperature extremes, moisture loss and weed growth. A good way to manage lawn clippings is with a mulching lawnmower.

### ***Non-ferrous metals***

Metals, which contain no iron. Examples include brass, copper, tin and steel. Ferrous metals are usually separated from non-ferrous metals with a magnet. Thus, a good test to determine if a metal is ferrous or non-ferrous is to apply a magnet to it. Non-ferrous metals will attract a magnet.

### ***Office paper***

Includes ledger, computer and bond papers.

### ***PET #1***

Polyethylene terephthalate. This type of plastic is used for soda, water and juice bottles and peanut butter jars. PET is clear.

### ***Procurement***

The purchasing of something, especially for a company, government, or other organization. In this case the purchase of recycled-content products in order to close the loop.

### ***Reduce, reuse, recycle***

Commonly referred to as the “3 Rs”. Buying products that are less toxic or contain less packaging, using reusable containers and other reusable items, maintaining and repairing products, participating in recycling programs, and buying products made from recycled materials.

### ***Recycling***

The process of collection, sorting, cleansing, treating and reconstituting materials that would otherwise become solid waste, and return them to the economic mainstream in the form of raw material for new or reconstituted products which meet the quality standards necessary to be used in the marketplace.

### ***Re-refining***

The use of petroleum refining techniques on used motor oil to produce lubrication stocks.

### ***Solid Waste***

Unwanted or discarded solid materials: trash, garbage and rubbish.



## GLOSSARY

---

### ***Sorted white office ledger***

Printed or unprinted sheets of white ledger, bond, writing and other papers. Prevent contamination by keeping your collection free of treated, coated, padded or heavily printed stock.

### ***Source reduction***

The action that reduces the generation of waste at its source. Sometimes referred to as waste prevention.

### ***Source separation***

The act of segregating recyclable or compostable materials from other materials in the waste stream at the point of generation.

### ***Three (3) cubic yards bin***

A 3 cubic yard bin is about the size of a 10-foot square room. Every ton of paper recycled saves 3.3 cubic yards of landfill space.

### ***Tipping fees***

The charge assessed for unloading solid waste at a disposal or transfer site.

### ***V (#3)***

Vinyl/Polyvinyl Chloride (PVC). This type of plastic is used in household cleaner bottles, cooking oil, liquor bottles. Vinyl is clear.

### ***Waste diversion***

The combined efforts of waste prevention reuse, recycling and composting practices.

### ***Waste minimization***

Refers to eliminating, reducing and recycling of hazardous waste.

### ***Waste prevention***

An action that reduces the generation of waste at its source. Sometimes referred to as source reduction.

### ***Waste reduction***

The combined efforts of waste prevention, reuse, composting and recycling practices. (Note: Some organizations use this term synonymously with waste prevention, while others do not.)

## **CONTACTS TO ASSIST BUSINESSES IN RECYCLING EFFORTS**

### **COUNTY OF SAN BERNARDINO**

Public Works Department/Solid Waste Management Division  
222 W. Hospitality Lane, 2<sup>nd</sup> Floor  
San Bernardino CA 92415-0017  
1/800/722-8004 or 909/386-8701  
[www.sbcounty.gov/wsd](http://www.sbcounty.gov/wsd)

Fire Department/Hazardous Material Division  
CESQG Program  
2824 East "W" Street  
San Bernardino CA 92415-0799  
909/382-5401 or 1/800/OILYCAT (645-9228)  
[www.sbcfire.org/hazmat/hhw.asp](http://www.sbcfire.org/hazmat/hhw.asp)

### **CALIFORNIA DEPARTMENT OF CONSERVATION DIVISION OF RECYCLING**

801 K Street, MS 24-01  
Sacramento CA 95814  
916/322-1080  
[www.consrv.ca.gov/DOR/](http://www.consrv.ca.gov/DOR/)

### **CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD (CIWMB)**

1001 I Street (PO Box 4025)  
Sacramento CA 95812-4025  
916/341-6000 (General Information)  
Recycling Hotline: 1/800/CLEAN – UP / Earth 911  
[www.ciwmb.ca.gov](http://www.ciwmb.ca.gov)

California Materials Exchange (CalMAX)  
1001 I Street (PO Box 4025)  
Sacramento CA 95812-4025  
1/877/520-9703  
[www.calmax.org](http://www.calmax.org)

Construction & Demolition <http://www.ciwmb.ca.gov/ConDemo/>

Financial Assistance: <http://www.ciwmb.ca.gov/Grants/>

Market Development Resources: <http://www.ciwmb.ca.gov/Markets/>

Used Oil Recycling Program: <http://www.ciwmb.ca.gov/UsedOil/>

California Waste Prevention Information Exchange [www.ciwmb.ca.gov/wpie/](http://www.ciwmb.ca.gov/wpie/)

Organic Materials Management <http://www.ciwmb.ca.gov/Organics/>

Business Resource Efficiency & Waste Reduction <http://www.ciwmb.ca.gov/BizWaste/>

## **U.S. ENVIRONMENTAL AGENCY SOLID WASTE SECTION**

U.S.EPA Region 9  
75 Hawthorne Street  
San Francisco CA 94105  
415/947-8000  
1/866/EPA-WEST  
[www.epa.gov/region09/](http://www.epa.gov/region09/)

### **CITY CONTACTS**

City of Adelanto	760/246-2300
Town of Apple Valley	760/240-7521
City of Barstow	760/256-3531
City of Big Bear Lake	909/866-5831
City of Chino	909/627-7577
City of Chino Hills	909/364-2700
City of Colton	909/370-3377
City of Fontana	909/350-6760
City of Grand Terrace	909/430-2226
City of Hesperia	760/947-1589
City of Highland	909/864-8732
City of Loma Linda	909/799-4400
City of Montclair	909/625-9414
City of Ontario	909/395-2040
City of Rancho Cucamonga	909/477-2740
City of Redlands	909/798-7529
City of Rialto	909/820-2622
City of San Bernardino	909/384-5549
City of Twentynine Palms	760/367-6799
City of Upland	909/931-4270
City of Victorville	760/955-5086
City of Yucaipa	909/797-2489
Town of Yucca Valley	760/369-7209

## *Notes*

